Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL QUALITY MEASURES CLEARINGHOUSE

General

Title

Use of spirometry testing in the assessment and diagnosis of COPD: percentage of members 40 years of age and older with a new diagnosis of COPD or newly active COPD, who received appropriate spirometry testing to confirm the diagnosis.

Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of members 40 years of age and older with a new diagnosis of chronic obstructive pulmonary disease (COPD) or newly active COPD, who received appropriate spirometry testing to confirm the diagnosis.

Rationale

Chronic obstructive pulmonary disease (COPD) is a major cause of chronic morbidity and mortality throughout the world and in the United States (U.S.). COPD defines a group of diseases characterized by

airflow obstruction, and includes chronic bronchitis and emphysema (Mannino et al., 2002). Symptoms of COPD range from chronic cough and sputum production to severe, disabling shortness of breath, leading to significant impairment of quality of life. COPD afflicts nearly 16 million adults in the U.S. COPD is the fourth leading cause of death in the U.S., and is projected to move to third place by 2020 (Snow, Lascher, & Mottur-Pilson, 2001; National Heart, Lung, and Blood Institute [NHLBI], 2001).

Spirometry is a simple test that measures the amount of air a person can breathe out and the amount of time it takes to do so (NHLBI & World Health Organization [WHO], 2004). Both symptomatic and asymptomatic patients suspected of COPD should have spirometry performed to establish airway limitation and severity (Sutherland & Cherniack, 2004). Though several scientific guidelines and specialty societies (American Thoracic Society, 1994; NHLBI & WHO, 2004; Institute for Clinical Systems [ICSI], 2003; Veterans Administration/Department of Defense [VA/DoD], 2001) recommend use of spirometry testing to confirm COPD diagnosis and determine severity of airflow limitation, spirometry tests are largely underutilized.

Evidence for Rationale

American Thoracic Society. Standardization of spirometry. [internet]. 1994.

Institute for Clinical Systems Improvement (ICSI). Health care guideline: chronic obstructive pulmonary disease. [internet]. 2003 Dec [accessed 2004 Sep 01].

Mannino DM, Homa DM, Akinbami LJ, Ford ES, Redd SC. Chronic obstructive pulmonary disease surveillance--United States, 1971-2000. MMWR Surveill Summ. 2002 Aug 2;51(6):1-16. PubMed

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Heart, Lung, and Blood Institute, World Health Organization. Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease: Global Initiative for Chronic Obstructive Lung Disease (GOLD). Executive summary. [internet]. 2004 [accessed 2004 Sep 01].

National Heart, Lung, and Blood Institute. Data fact sheet: chronic obstructive pulmonary disease (COPD). 2001 May.

Snow V, Lascher S, Mottur-Pilson C, Joint Expert Panel on COPD of the American College of Chest Physicians [trunc]. The evidence base for management of acute exacerbations of COPD: clinical practice guideline, part 1. Chest. 2001 Apr;119(4):1185-9. PubMed

Sutherland ER, Cherniack RM. Management of chronic obstructive pulmonary disease. N Engl J Med. 2004 Jun 24;350(26):2689-97. [65 references] PubMed

Veterans Administration/Department of Defense (VA/DoD). Clinical practice guideline for the management of chronic obstructive pulmonary disease (COPD). Guideline summary. [internet]. [accessed 2001 Oct 01].

Primary Health Components

Chronic obstructive pulmonary disease (COPD); emphysema; chronic bronchitis; spirometry testing

Denominator Description

Members 42 years of age or older as of December 31 of the measurement year, with a Negative Diagnosis History and a new diagnosis of chronic obstructive pulmonary disease (COPD) or newly active COPD (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

At least one claim/encounter for spirometry during the 730 days (2 years) prior to the Index Episode Start Date (IESD) through 180 days (6 months) after the IESD (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

- Chronic obstructive pulmonary disease (COPD) is a progressive, irreversible respiratory condition and is the third leading cause of the death in the United States (Hoyert & Xu, 2012; Global Initiative for Chronic Obstructive Lung Disease [GOLD], 2014). Spirometry testing is recommended by the GOLD as the preferred method for diagnosing COPD (2014).
- An estimated 14.8 million adults in the United States were diagnosed with COPD in 2010, but about 12 million adults were estimated to be living with undiagnosed COPD (National Heart, Lung, and Blood Institute [NHLBI], 2012).
- More than 143,000 adults died from COPD in the United States in 2011 (Hoyert & Xu, 2012), and the death rate for COPD has remained steady since 1999 (Centers for Disease Control and Prevention [CDC], 2014).
- The majority of patients diagnosed with COPD have moderate or severe disease (50 percent and 31 percent, respectively) (Mapel et al., 2011). Adults with more severe COPD tend to have higher costs of care and increased exacerbations (GOLD, 2014).
- Despite being the gold standard for diagnosis and assessment of COPD, spirometry testing is underused. Earlier diagnosis using spirometry testing might protect against worsening symptoms and decrease the number of exacerbations.

Evidence for Additional Information Supporting Need for the Measure

Centers for Disease Control and Prevention (CDC). Chronic obstructive pulmonary disease (COPD) data and statistics. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2014 [accessed 2014 Jun 10].

Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease. Vancouver (WA): Global

Initiative for Chronic Obstructive Lung Disease (GOLD); 2014. 102 p.

Hoyert DL, Xu J. Deaths: preliminary data for 2011. Natl Vital Stat Rep. 2012 Oct 10;61(6):1-51. PubMed

Mapel DW, Dalal AA, Blanchette CM, Petersen H, Ferguson GT. Severity of COPD at initial spirometry-confirmed diagnosis: data from medical charts and administrative claims. Int J COPD. 2011;6:573-81. PubMed

National Committee for Quality Assurance (NCQA). The state of health care quality 2015. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. 205 p.

National Heart, Lung, and Blood Institute (NHLBI). Morbidity and mortality: 2012 chart book on cardiovascular, lung, and blood diseases. Bethesda (MD): National Institutes of Health (NIH); 2012. 117 p.

Extent of Measure Testing

All HEDIS measures undergo systematic assessment of face validity with review by measurement advisory panels, expert panels, a formal public comment process and approval by the National Committee for Quality Assurance's (NCQA's) Committee on Performance Measurement and Board of Directors. Where applicable, measures also are assessed for construct validity using the Pearson correlation test. All measures undergo formal reliability testing of the performance measure score using beta-binomial statistical analysis.

Evidence for Extent of Measure Testing

Rehm B. (Assistant Vice President, Performance Measurement, National Committee for Quality Assurance, Washington, DC). Personal communication. 2015 Mar 16. 1 p.

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Ambulatory/Office-based Care

Emergency Department

Hospital Inpatient

Hospital Outpatient

Managed Care Plans

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Age greater than or equal to 40 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Living with Illness

IOM Domain

Effectiveness

Data Collection for the Measure

Case Finding Period

A 12-month window that begins on July 1 of the year prior to the measurement year and ends on June 30 of the measurement year

Denominator Sampling Frame

Enrollees or beneficiaries

Denominator (Index) Event or Characteristic

Clinical Condition

Encounter

Patient/Individual (Consumer) Characteristic

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions
Members 42 years of age or older as of December 31 of the measurement year, with a Negative Diagnosis History and a new diagnosis of chronic obstructive pulmonary disease (COPD) or newly active COPD

Identify all members who had any of the following during the Intake Period.

- An outpatient visit (Outpatient Value Set), an observation visit (Observation Value Set) or an ED visit (ED Value Set) with any diagnosis of COPD (COPD Value Set), emphysema (Emphysema Value Set) or chronic bronchitis (Chronic Bronchitis Value Set).
- An acute inpatient discharge with any diagnosis of COPD (COPD Value Set), emphysema (Emphysema Value Set) or chronic bronchitis (Chronic Bronchitis Value Set). To identify acute inpatient discharges:
  - Identify all acute and nonacute inpatient stays (Inpatient Stay Value Set).
  - Exclude nonacute inpatient stays (Nonacute Inpatient Stay Value Set).
  - Identify the discharge date for the stay.
- If the member had more than one eligible visit, include only the first visit.

Note:

Members must have been continuously enrolled 730 days (2 years) prior to the Index Episode Start Date (IESD) through 180 days (6 months) after the IESD.
Allowable Gap: One gap in enrollment of up to 45 days is allowed in each of the 12-month periods prior to the IESD or in the 6-month period after the IESD, for a maximum of two gaps total. To determine continuous enrollment for a Medicaid beneficiary for whom enrollment is verified monthly, the member may not have more than a 1-month gap in coverage.
Negative Diagnosis History: The 730 days (2 years) prior to the IESD, when the member had no claims/encounters containing any diagnosis of COPD. *For an acute inpatient IESD*, use the IESD date of admission to determine the 730 days prior to the IESD.
IESD: The earliest date of service for an eligible visit (outpatient, ED, or acute inpatient) during the Intake Period with any diagnosis of COPD.
- *For an outpatient claim/encounter*, the IESD is the date of service.
- *For an acute inpatient claim/encounter*, the IESD is the date of discharge.
- *For a transfer or readmission*, the IESD is the discharge date of original admission.

Intake Period: A 12-month window that begins on July 1 of the year prior to the measurement year and ends on June 30 of the measurement year. The Intake Period captures the first COPD diagnosis.

Exclusions

Test for Negative Diagnosis History. Exclude members who had any of the following during the 730 days prior to the IESD:

- An outpatient visit (Outpatient Value Set), an observation visit (Observation Value set) or an ED visit (ED Value set) with any diagnosis of COPD (COPD Value Set), emphysema (Emphysema Value Set) or chronic bronchitis (Chronic Bronchitis Value Set).
  - Do not include ED visits that result in an inpatient admission.
- An acute inpatient discharge with any diagnosis of COPD (COPD Value Set), emphysema (Emphysema Value Set) or chronic bronchitis (Chronic Bronchitis Value Set). To identify acute inpatient discharges:
  - Identify all acute and nonacute inpatient stays (Inpatient Stay Value Set).
  - Exclude nonacute inpatient stays (Nonacute Inpatient Stay Value Set).
  - Identify the discharge date for the stay.

Value Set Information

Measure specifications reference value sets that must be used for HEDIS reporting. A value set is the complete set of codes used to identify the service(s) or condition(s) included in the measure. Refer to the NCQA Web site to purchase HEDIS Volume 2, which includes the Value Set Directory.

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

At least one claim/encounter for spirometry (Spirometry Value Set) during the 730 days (2 years) prior to the Index Episode Start Date (IESD) through 180 days (6 months) after the IESD

Exclusions

Unspecified

Value Set Information

Measure specifications reference value sets that must be used for HEDIS reporting. A value set is the complete set of codes used to identify the service(s) or condition(s) included in the measure. Refer to the NCQA Web site to purchase HEDIS Volume 2, which includes the Value Set Directory.

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Description of Allowance for Patient or Population Factors

This measure requires that results are reported separately for commercial, Medicaid, and Medicare product lines.

Standard of Comparison

not defined yet

Identifying Information

Original Title

Use of spirometry testing in the assessment and diagnosis of COPD (SPR).

Measure Collection Name

HEDIS 2016: Health Plan Collection

Measure Set Name

Effectiveness of Care

Measure Subset Name

Respiratory Conditions

Submitter

National Committee for Quality Assurance - Health Care Accreditation Organization

Developer

National Committee for Quality Assurance - Health Care Accreditation Organization

Funding Source(s)

Unspecified

Composition of the Group that Developed the Measure

National Committee for Quality Assurance's (NCQA's) Measurement Advisory Panels (MAPs) are composed of clinical and research experts with an understanding of quality performance measurement in the particular clinical content areas.

Financial Disclosures/Other Potential Conflicts of Interest

In order to fulfill National Committee for Quality Assurance's (NCQA's) mission and vision of improving health care quality through measurement, transparency and accountability, all participants in NCQA's expert panels are required to disclose potential conflicts of interest prior to their participation. The goal of this Conflict Policy is to ensure that decisions which impact development of NCQA's products and services are made as objectively as possible, without improper bias or influence.

Endorser

National Quality Forum - None

NQF Number

not defined yet

Date of Endorsement

2014 Dec 23

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2015 Oct

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

This measure updates previous versions:

National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.
National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.

Measure Availability

Source available for purchase from the National Committee for Quality Measurement (NCQA) Web site.

For more information, contact NCQA at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Phone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org.

Companion Documents

The following are available:

National Committee for Quality Assurance (NCQA). The state of health care quality 2015. Washington (DC): National Committee for Quality Assurance (NCQA); 2015 Oct. 205 p.
National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical update. Washington (DC): National Committee for Quality Assurance (NCQA); 2015 Oct 1. 12 p.

For more information, contact the National Committee for Quality Assurance (NCQA) at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Phone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org.

NQMC Status

This NQMC summary was completed by ECRI on June 6, 2006. The information was not verified by the measure developer.

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Copyright Statement

Production

Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

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